## Claims:

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- A composition for improving the properties of a cementitious composition, comprising a fluid blend of
- 5 (i) at least one polyalkylene oxide, the alkylene oxide units being ethylene and propylene oxides;
  - (ii) at least one aqueous paraffin emulsion; and
  - (iii) at least one siloxane compound that is at least one of liquid and soluble in at least one of water and aqueous alkali.
  - 2. A composition according to claim 1, in which the siloxane is selected from those that correspond to the general formula I:

$$R = X_{a} = \underbrace{Si}_{CH_{3}} \underbrace{CH_{3}}_{CH_{3}} \underbrace{C$$

where m and n are independently from 1-2000, preferably from 1-500 and more preferably from 1-200, a, b, and c are independently either 0 or 1 and X, Y and Z are selected from

-O-;

- -O-(CH<sub>2</sub>)<sub>1-30</sub>-, this moiety being at least one of linear, branched and containing at least one ring;
- -(CH<sub>2</sub>)<sub>1-30</sub>-, this moiety being at least one of linear, branched and containing at least one ring;
  - $-CH_2-CH_2-CH_2-O-$ ;

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-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-O-CH<sub>2</sub>-CHOH-CH<sub>2</sub>-; -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-O-CH<sub>2</sub>-CHOH-CH<sub>2</sub>-O-; -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-O-CH<sub>2</sub>-CHOH-CH<sub>2</sub>-N-;

and R, R' and R'' are independently selected from at least one of hydrogen, C<sub>1-100</sub> alkyl, C<sub>6-30</sub> aryl, C<sub>7-30</sub> aralkyl; C<sub>7-30</sub> alkaryl; C<sub>1-30</sub> hydroxyalkyl; C<sub>3-200</sub> polyhydroxyalkyl; polyether consisting of from 2-200 identical or different C<sub>1-15</sub> oxyalkylene units; C<sub>1-30</sub> aminoalkyl; polyiminopolyalkylene having from 1-20 identical or different C<sub>2-15</sub> alkylene units; polyiminopolyoxyalkylene having from 1-20 identical or different C<sub>2-15</sub> oxyalkylene units; C<sub>3-30</sub> quaternary ammonium, optionally completely or partially ionised with at least one anion; C<sub>4-30</sub> betaine; carboxyl, optionally completely or partially ionised with any suitable cation; C<sub>4-30</sub> polycarboxyalkyl, optionally completely or partially ionised with at least one cation; sulpho group, optionally completely or partially ionised with at least one cation; thiosulpho group, optionally completely or partially ionised with at least one cation; epoxide group; glycidyl; acrylate; C<sub>1-30</sub> ester; polyester consisting of from 2-200 C<sub>2-15</sub> diacid and diester monomer units; and esters of inorganic acids, all alkyl chains being at least one of linear, branched and comprising at least one ring.

- 20 3. A composition according to claim 1 or claim 2, in which the siloxane is selected from those of Formula I in which a, b, and c are all 1 and X, Y and Z are selected from
  - -O-(CH<sub>2</sub>)<sub>1-30</sub>-, this moiety being linear or branched;
  - $-(CH_2)_{1-30}$ -, this moiety being linear or branched;
  - -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CHOH-CH<sub>2</sub>-;

and R, R' and R'' are independently selected from at least one of hydrogen; hydroxy; polyether consisting of from 2-200 identical or different  $C_{2-6}$  oxyalkylene units, with the proviso that, if there is present more than one type of oxyalkylene unit, there shall be present at least two of each unit;  $C_{3-30}$  quaternary ammonium, optionally completely or partially ionised with at least one anion;  $C_{4-30}$  betaine;

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carboxyl, optionally completely or partially ionised with at least one cation; sulpho group, optionally completely or partially ionised with at least one cation; thiosulpho group, optionally completely or partially ionised with at least one cation; glycidyl; and acrylate; all alkyl chains being at least one of linear, branched and comprising at least one ring.

4. A composition according to any one of claims 1-3, in which the siloxane is selected from those of Formula I in which m and n are independently selected from 1-200, a, b, and c are all 1 and X, Y and Z are selected from

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-O-(CH<sub>2</sub>)<sub>1-12</sub>-;
-(CH<sub>2</sub>)<sub>1-12</sub>-;
-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-O-CH<sub>2</sub>-CHOH-CH<sub>2</sub>-;
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- and R, R' and R'' are independently selected from at least one of hydrogen; hydroxy; polyether consisting of from 2-200 identical or different C<sub>2-6</sub> oxyalkylene units, with the proviso that, if there is present more than one type of oxyalkylene unit, there shall be present at least two of each unit; C<sub>3-30</sub> quaternary ammonium, optionally completely or partially ionised with at least one anion; C<sub>4-30</sub> betaine; carboxyl, optionally completely or partially ionised with at least one cation; glycidyl; and acrylate; all alkyl chains being capable of being linear or branched.
- 5. A composition according to any one of claims 1-4, in which the siloxane is selected from those of Formula I in which m is from 1-30 and n is from 1-100, a, b, and c are all 1 and X, Y and Z are selected from

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-O-(CH<sub>2</sub>)<sub>1-6</sub>-;
-(CH<sub>2</sub>)<sub>1-6</sub>-;
-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-O-CH<sub>2</sub>-CHOH-CH<sub>2</sub>-;
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and R, R' and R'' are independently selected from at least one of hydrogen; hydroxy; polyether consisting of from 2-200 identical or different C<sub>2-6</sub> oxyalkylene

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units, with the proviso that, if there is present more than one type of oxyalkylene unit, there shall be present at least two of each unit;  $C_{3-20}$  quaternary ammonium, optionally completely or partially ionised with at least one anion;  $C_{4-10}$  betaine and carboxyl, optionally completely or partially ionised with at least one cation; all alkyl chains being capable of being linear or branched.

- 6. A composition according to any one of claims 1-5 in which the polyalkylene oxide is polyethylene oxide.
- 7. A composition according to any one of claims 1-6 in which the weight-average molecular weight of the polyalkylene oxide is 100,000-8,000,000, preferably 2,000,000-5,000,000.
- A composition according to any one of claims 1-7 in which the paraffin emulsion is
   an ionically-emulsified paraffin mixture with a fusion point of 45-51°C and a particle size of less than 2μM.
- A method of modifying the properties of a cementitious composition, comprising adding to a fluid cementitious mix a composition according to any one of claims 1 8.
  - 10. A cementitious mix having improved properties, which composition comprises a chemical composition according to claims 1-8.